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**Datasheet for the decision
of 17 January 2019**

Case Number: T 2048/16 - 3.3.06

Application Number: 09178710.1

Publication Number: 2333041

IPC: C11D1/66, C11D3/386

Language of the proceedings: EN

Title of invention:

Method and use of a dishwasher composition

Patent Proprietor:

The Procter & Gamble Company

Opponent:

Henkel AG & Co. KGaA

Headword:

Drying through the wash / PROCTER & GAMBLE

Relevant legal provisions:

EPC Art. 56

Keyword:

Inventive step (all requests) : no

Decisions cited:

G 0002/88

Catchword:



Beschwerdekammern
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Chambres de recours

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Case Number: T 2048/16 - 3.3.06

D E C I S I O N
of Technical Board of Appeal 3.3.06
of 17 January 2019

Appellant: Henkel AG & Co. KGaA
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Respondent: The Procter & Gamble Company
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Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted on 24 June 2016
rejecting the opposition filed against European
patent No. 2333041 pursuant to Article 101(2)
EPC.**

Composition of the Board:

Chairman J.-M. Schwaller
Members: L. Li Voti
R. Cramer

Summary of Facts and Submissions

- I. The present appeal is from the decision of the Opposition Division to reject the opposition against European patent no. 2 333 041.
- II. With its grounds of appeal, the opponent (also the "appellant") argued that the claimed subject-matter was not novel over D1 (WO 2006/097435 A1) or D2 (JP 2000-178586 A and translations (D2a/D2b)), and that it lacked inventive step taking D1 or D13a (WO 2009/033972) as the closest prior art.
- III. With its reply dated 14 March 2017, the patentee (also "the respondent") filed three sets of amended claims as first to third auxiliary requests.
- IV. In a communication, the Board expressed its preliminary opinion that claim 1 appeared to be novel, that D13a had not been filed and thus was not in the proceedings, and that D1 appeared to be a suitable starting point for the evaluation of inventive step.
- V. Both parties replied to the Board's communication and a copy of D13a was filed.
- VI. During the oral proceedings, which were held on 17 January 2019, inventive step was discussed starting from document D1 as closest prior art, taking into consideration the reference to D3 (Hauthal, Wagner: "*Reinigungs- und Pflegemittel im Haushalt*", Verlag für chemische Industrie, Seiten 161-184 (2003)) in this document.

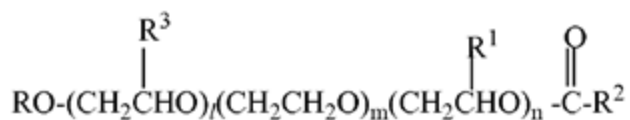
VII. The final requests of the parties were the following:

The Appellant requested that the decision under appeal be set aside and that the patent be revoked.

The Respondent requested that the appeal be dismissed or, alternatively, that the patent be maintained in amended form on the basis of anyone of the first to third auxiliary request filed with letter of 14 March 2017.

VIII. Independent claims 1 and 10 according to the main request (patent as granted) read as follows:

"1. A method of achieving drying through the wash in a dishwasher comprising the step of delivering into the main wash of the dishwasher an automatic dishwashing detergent composition comprising an esterified alkyl alkoxyated surfactant of general formula (I)



where

R is a branched or unbranched alkyl radical having 8 to 16 carbon atoms;

R³, R¹ independently of one another, are hydrogen or a branched or unbranched alkyl radical having 1 to 5 carbon atoms;

R² is an unbranched alkyl radical having 5 to 17 carbon atoms;

l, n independently of one another, are a number from 1 to 5 and m is a number from 13 to 35; and

an enzyme selected from:

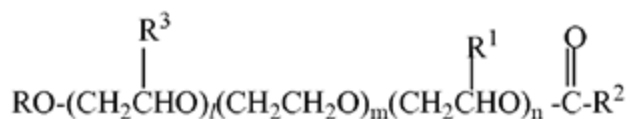
a) a protease demonstrating at least 90% identity with the wild-type enzyme from Bacillus lentus, comprising

mutations in one or more, preferably two or more and more preferably three or more of the following positions, using the BPN' numbering system and amino acid abbreviations as illustrated in WO 00/37627; 68, 87, 99, 101, 103, 104, 118, 128, 129, 130, 167, 170, 194, 205 & 222 and optionally one or more insertions in the region comprising amino acids 95 - 103;

b) an amylase exhibiting at least 95% identity with the wild-type enzyme from *Bacillus* sp.707 (SEQ ID NO:7 in US 6,093,562), especially those comprising one or more of the following mutations M202, M208, S255, R172, and/or M261; and

c) a mixture thereof."

"10. Use of a method of achieving drying through the wash in a dishwasher comprising the step of delivering into the main wash of the dishwasher an automatic dishwashing detergent composition comprising an esterified alkyl alkoxyated surfactant of general formula (I)



where

R is a branched or unbranched alkyl radical having 8 to 16 carbon atoms;

R³, R¹ independently of one another, are hydrogen or a branched or unbranched alkyl radical having 1 to 5 carbon atoms;

R² is an unbranched alkyl radical having 5 to 17 carbon atoms;

l, n independently of one another, are a number from 1 to 5 and m is a number from 13 to 35; and

an enzyme selected from:

- a) a protease demonstrating at least 90% identity with the wild-type enzyme from *Bacillus lentus*, comprising mutations in one or more, preferably two or more and more preferably three or more of the following positions, using the BPN' numbering system and amino acid abbreviations as illustrated in WO 00/37627; 68, 87, 99, 101, 103, 104, 118, 128, 129, 130, 167, 170, 194, 205 & 222 and optionally one or more insertions in the region comprising amino acids 95 - 103;
- b) an amylase exhibiting at least 95% identity with the wild-type enzyme from *Bacillus sp.707* (SEQ ID NO:7 in US 6,093,562), especially those comprising one or more of the following mutations M202, M208, S255, R172, and/or M261; and
- c) a mixture thereof in the main-wash of a dishwasher to provide drying through the wash in an automatic dishwashing operation."

Claim 1 according to the **second auxiliary request** corresponds to claim 10 according to the main request.

Each claim 1 according to the **first and third auxiliary request** differs from that of the main and second auxiliary request, respectively, in that the detergent composition comprises additionally "a dispersant selected from organic builders selected from MGDA, GLDA, IDS carboxymethyl inulin and mixtures thereof".

Reasons for the Decision

Main Request - Inventive step

1. The contested patent (paragraph [0001] and claim 1) concerns a method of achieving drying through the wash in a dishwasher comprising the step of delivering a composition comprising specific non-ionic surfactant

and enzyme into the main wash cycle of the dishwasher. According to the description (paragraphs [0002], [0003] and [0005]), at the end of an automatic dishwashing operation which includes typically a pre-wash cycle, a main-wash cycle, a rinse cycle and a drying cycle, the washed items, in particular those made of plastic, are usually wet. Rinse aids are thus usually added in the rinse cycle to help drying.

According to paragraph [0004] of the patent, the purpose of the invention is to provide a method and use of an automatic dishwashing product that provides good drying without the need of adding a separate product in the rinse cycle and which at the same time provides good cleaning and finishing of the washed items.

The Board notes that the method according to claim 1 does not exclude the addition of a rinse aid during the dishwashing process.

2. According to the problem-solution approach the starting point to be used for the evaluation of inventive step is normally a piece of prior art disclosing subject-matter conceived for the same purpose or aiming at the same objective as the claimed invention and having, possibly, the most relevant technical features in common.

- 2.1 In the present case, the board holds document D1 as representing the closest state of the art, as it concerns (see page 2, lines 14-26) the same esterified alkyl alkoxyated surfactant as the one defined in claim 1 at issue, with one of its particularly preferred applications being (see D1, page 6, lines 14 to 17) its use in so-called "2 in 1" or "3 in 1" tabs, such as those disclosed in document D3. It is

undisputed that the tabs of D3 (see D3, point 4.2.4) are added to the main wash of an automatic dishwashing operation and comprise both a cleaning formulation and a rinse aid. It follows that these tabs, which comprise already a rinse aid, not only provide cleaning and finishing of the washed items, but also contributes necessarily to their drying without the need of adding a **separate** product in the rinse cycle.

Therefore, since D1 aims at the same objective as the invention and has most of the relevant technical features in common with the subject-matter of claim 1 at issue, D1 is the most suitable starting point for the evaluation of inventive step.

- 2.2 D13a, cited as background art in the patent (paragraph [0002]), has a similar purpose (D13a: page 2, first paragraph) as the contested patent, but is not held to be more relevant than D1 since its composition (D13a: page 2, third paragraph) does not contain the esterified alkyl alkoxyated surfactants of claim 1 at issue.
3. Starting from D1 as closest prior art, the respondent defined the technical problem underlying the invention as the provision of an automatic dishwashing method that provides improved drying, especially on plastic items, without the need of adding a rinse aid, which at the same time provides good cleaning and finishing of the washed items.
4. To the question whether this problem is successfully solved, the board notes the following:
 - 4.1 The example in the patent (see paragraphs [0101] and [0102]) shows that by applying an automatic dishwashing

method, which includes the step of delivering in the main wash a detergent composition comprising the combination of an esterified alkyl alkoxyated non-ionic surfactant of formula (I) (LF731) with a protease (Excellase) and an amylase (Stainzyme Plus) as defined in claim 1 at issue and without the use of an additional rinse aid, to a plastic load, the washed objects were found dry. Cleaning and finishing results were also good.

- 4.2 It is however not possible to derive from this example, in the absence of any comparison with a different composition, which component is responsible for the alleged effect and whether the degree of drying is better or not than the one obtainable with the "2 in 1" or "3 in 1" tab of D1. Therefore, contrary to the respondent's submission, the mere fact that a plastic load has been dried cannot be considered as an indication of the achievement of a superior effect with respect to the closest prior art.

More importantly, the patent does not contain any evidence that the distinguishing feature of claim 1 over the closest prior art, i.e. the presence of the specific enzyme of claim 1, provides any unexpected effect on drying apart from the expectable contribution due to their known cleaning effect, a contribution which would be expected also by using other enzymes and does not credibly show a superior effect of the chosen combination of components of claim 1.

- 4.3 Therefore, the Board agrees with the Appellant that the technical problem underlying the invention has to be reformulated in the less ambitious provision of a further dishwashing method providing good drying, cleaning and finishing.

As shown in the example of the patent this technical problem is solved by the claimed method.

5. The only question to be answered for evaluating inventive step of the claimed subject-matter is whether the skilled person, starting from a "2 in 1" or "3 in 1" tab of D1, containing an automatic dishwashing composition comprising the esterified surfactants of formula (I), would have envisaged to incorporate in such a composition an enzyme as specified in claim 1.
 - 5.1 The board notes in this respect that it is undisputed that enzymes are common components of automatic dishwashing detergent compositions. Moreover, not only D1 suggests (page 18, second paragraph) that enzymes such as protease and amylase can be added to the detergent compositions disclosed in this document, but also the prior art teaches that the enzymes of claim 1 at issue, which are all known enzymes, can be added to automatic dishwashing formulations (see for example D6 (EP 2100950 A1), paragraphs [0008] to [0014], disclosing an automatic dishwashing composition comprising the combination of protease and amylase as presently defined in claim 1 at issue).
 - 5.2 Therefore, the skilled person faced with the technical problem posed would have obviously tried to optimise the efficiency of the composition of the tabs disclosed in D1 by incorporating these known enzymes.
6. The Board thus concludes that the subject-matter of claim 1 does not involve an inventive step (Article 56 EPC). The main request is therefore not allowable.

First auxiliary request - Inventive step

7. Claim 1 according to this request differs from that of the main request in that the composition comprises additionally a dispersant selected from organic builders selected from MGDA, GLDA, IDS carboxymethyl inulin and mixtures thereof.

8. As explained above, the patent does not contain any comparison with the tested composition and thus no evidence that the feature distinguishing the subject-matter of claim 1 from the closest prior art, i.e. the presence of the specific enzyme and builder of claim 1, provides any unexpected effect on drying apart from the expectable contributions due to their known cleaning support. Moreover, the specific organic builders of claim 1 are even not part of the composition tested in the patent.

9. Therefore, also in this case the technical problem underlying the invention has to be reformulated in the more simpler terms of the provision of a further dishwashing method providing good drying, cleaning and finishing.
 - 9.1 The board notes in this respect that D1 explicitly suggests (page 12, second paragraph) to combine the ester surfactants of formula (I) with builders such as MGDA, i.e. one of the builders specified in claim 1.

 - 9.2 Therefore, the skilled person faced with the technical problem posed would have obviously tried to optimise the composition of the tabs disclosed in D1 by incorporating also such known builders.

10. The Board thus concludes that the subject-matter of claim 1 does not involve an inventive step (Article 56 EPC). The first auxiliary request is therefore not allowable.

Second and third auxiliary requests - Inventive step

11. Claim 1 according to each of these auxiliary requests concerns the use of a method having all the features according to claim 1 of the main request and first auxiliary request, respectively, in the main wash of a dishwasher to provide drying through the wash in an automatic dishwashing operation.
12. As regards these alleged use claims, they are clearly not drafted in accordance with the requirements of G 2/88 (point 9.1 of the reasons), i.e. as "use of a compound A for purpose B" but as the use of a process for a particular purpose.
 - 12.1 It is established jurisprudence (Case Law of the Boards of Appeal, 8th edition, 2016, I.C.8.1.3 d), pages 152-153) that a use claim formulated in this way has to be understood as a claim directed to the process itself whilst the indicated purpose is not to be considered as an additional technical feature of the process.
 - 12.2 Therefore, claim 1 of both these requests is to be considered only as a reformulation of the same method of claim 1 according to the main and first auxiliary request, respectively, and is not distinguished therefrom.
13. Hence the same conclusion reached with respect to claim 1 according to the main and first auxiliary request applies mutatis mutandis to these claims, which thus

lack inventive step (Article 56 EPC) either. The second and third auxiliary requests are therefore not allowable either.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The patent is revoked.

The Registrar:

The Chairman:



D. Magliano

J.-M. Schwaller

Decision electronically authenticated